

## REMARKS

For ease of reference, paragraph numbers used herein correspond to like paragraph numbers in the Non-final Office action of July 18, 2002.

### Claim objections

1. Acknowledgment is made that misnumbered claims 4 (second occurrence) and 5 have been renumbered as 5 and 6.

In addition, the applicants note claim 6 (first occurrence), 7, and 8 are likewise misnumbered. The applicants have therefore voluntarily renumbered claims 6 (first occurrence), 7, and 8, as claims 7, 8, and 9 by amendment herein.

Thus, the pending claims in the present application are claims 5-9, wherein claims 5 and 9 are independent apparatus claims, and claims 6-8 are dependent claims having dependency on claim 5.

2. Claims 6 and 8 stand objected to because of informalities. The objection is respectfully traversed.

Specifically, the margins have been noted as being too small such that the punch holes have cut out segments of these claims, with appropriate correction being required in the form of an Amendment.

Accordingly, applicant has provided a "confirmation" of claims 6 and 8 (first occurrence of each).

**Claim Rejections - 35 USC § 102**

The applicants remarks in view of the two rejections under 35 USC § 102(b) are similar and have thus been grouped together below.

4. Claim 4 stands rejected in the Office action under 35 USC § 102(b) as being anticipated by Bessho (U.S. Patent 4,978,219). The rejection is respectfully traversed.

5. Claim 4 stands rejected in the Office action under 35 USC § 102(b) as being anticipated by Moslehi (U.S. Patent 5,741,070). The rejection is respectfully traversed.

In response, the applicants respectfully note that claim 4 was renumbered by the Examiner to reflect proper claim numbering in accordance with 27 CFR 1.126. Thus claim 4 is now claim 5.

Claim 5 distinguishes each of Bessho and Moslehi by at least the required "laser system configured to first direct a first wavelength of laser light toward the holder at a diamond film substrate having a surface, said surface having an initial surface roughness,  $R_0$ , to both evaporate a portion of the substrate surface and create a structurally weakened surface having an intermediate surface roughness,  $R_1$ " (emphasis added).

Neither Bessho nor Moslehi teach one of skill in the art to "evaporate a portion of the substrate surface and create a structurally weakened surface." As such, Bessho and Moslehi, alone or in combination, cannot be said to anticipate claim 5).

Therefore the claim rejections under 35 USC §102(b) in view of Bessho or Moslehi are believed by the applicants to be overcome.

**Claim Rejections - 35 USC § 103**

7. Claims 5-8 stand rejected under 35 USC§103 as being unpatentable over Nagy (U.S. Patent 5,504,303). The rejection is respectfully traversed.

In response, the applicants believe the rejection to be intended for renumbered claims 5-8 (i.e., independent claim 5 and dependent claims 6-8), as opposed to originally filed dependent claims 5-8, now dependent claims 6-9.

Independent claim 5 and dependent claims 6-8 are directed to an apparatus for processing a diamond film substrate wherein the apparatus comprises "a laser system configured to first direct a first wavelength of laser light toward the holder at a diamond film substrate having a surface, said surface having an initial surface roughness,  $R_0$ , to both evaporate a portion of the substrate surface and create a structurally weakened surface having an intermediate surface roughness,  $R_i$ ; and further configured to subsequently direct a second wavelength of laser light to at least a portion of the structurally weakened substrate surface having an intermediate surface roughness,  $R_i$ , to remove the structurally weakened surface to modify the surface of at least a part of said portion to a final surface roughness,  $R_f$ " (emphasis added).

It is respectfully submitted that Nagy does not teach or suggest a first wavelength of laser light and a second wavelength of laser light wherein each of the wavelengths of laser light modify a surface.

Nagy teaches a combined measuring and ablation laser apparatus comprising a single ablation laser. Nagy does not teach or suggest "a laser system configured to first direct a first wavelength of laser light toward the holder at a diamond film substrate having a surface, said surface having an initial surface roughness,  $R_0$ , to both evaporate a portion of the substrate surface and create a structurally weakened surface having an intermediate surface roughness,  $R_i$ ; and further configured to subsequently direct a second wavelength of laser light to at least a portion of the structurally weakened substrate surface having an intermediate surface roughness,  $R_i$ , to remove the structurally weakened surface to modify the surface of at least a part of said portion to a final surface roughness,  $R_f$ ," (emphasis added) as required in claims 5-8. As such, Nagy cannot be said to make obvious claims 5-8.

The rejection of claims 5-8 under 35 USC§103 is therefore believed by the applicants to be overcome.

In view of the above Amendments and Remarks, prompt allowance of all pending claims is respectfully requested.

If it would be of assistance in resolving any issues in this application, the Examiner is kindly invited to contact applicants' attorney Mark Gilbreth, or in his absence applicants' agent Mary Gilbreth, at (713) 227-1200.

Respectfully submitted,

Date: October 18, 2002

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**PLEASE AMEND CLAIMS 6 (FIRST OCCURRENCE) - 8 AS FOLLOWS:**

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7. [6.] The apparatus of claim 5 [4] wherein the first wavelength is less than the second wavelength.

8. [7.] The apparatus of claim 5 [4] wherein the laser system is comprised of a first laser system configured to first direct a first wavelength of laser light toward the holder at a diamond film substrate having a surface, said surface having an initial surface roughness,  $R_0$ , to both evaporate a portion of the substrate surface and create a structurally weakened surface having an intermediate surface roughness,  $R_1$  and second laser system configured to subsequently direct a second wavelength of laser light to at least a portion of the structurally weakened substrate surface having an intermediate surface roughness,  $R_1$ , to remove the structurally weakened surface to modify the surface of at least a part of said portion to a final surface roughness,  $R_F$ .

9. [8.] An apparatus for processing a diamond film substrate, said apparatus comprising:

- (a) a holder for receiving the diamond film substrate; and
- (b) a first laser system configured to first direct a first wavelength of laser light toward the holder at a diamond film substrate having a surface, said surface having an initial

surface roughness,  $R_0$ , to both evaporate a portion of the substrate surface and create a structurally weakened surface having an intermediate surface roughness,  $R_i$ ; and

(c) a second laser system configured to subsequently direct a second wavelength of laser light to at least a portion of the structurally weakened substrate surface having an intermediate surface roughness,  $R_i$ , to remove the structurally weakened surface to modify the surface of at least a part of said portion to a final surface roughness,  $R_f$ ;

wherein said first and second wavelengths of laser light are different wavelengths of laser light.

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6/ 7. The apparatus of claim 5 wherein the first wavelength is less than the second wavelength.

2/ 8. The apparatus of claim 5 wherein the laser system is comprised of a first laser system configured to first direct a first wavelength of laser light toward the holder at a diamond film substrate having a surface, said surface having an initial surface roughness,  $R_0$ , to both evaporate a portion of the substrate surface and create a structurally weakened surface having an intermediate surface roughness,  $R_i$  and second laser system configured to subsequently direct a second wavelength of laser light to at least a portion of the structurally weakened substrate surface having an intermediate surface roughness,  $R_i$ , to remove the



structurally weakened surface to modify the surface of at least a part of said portion to a final surface roughness,  $R_F$ .

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9. An apparatus for processing a diamond film substrate, said apparatus comprising:

b)

(a) a holder for receiving the diamond film substrate; and

(b) a first laser system configured to first direct a first wavelength of laser light toward the holder at a diamond film substrate having a surface, said surface having an initial surface roughness,  $R_0$ , to both evaporate a portion of the substrate surface and create a structurally weakened surface having an intermediate surface roughness,  $R_i$ ; and

(c) a second laser system configured to subsequently direct a second wavelength of laser light to at least a portion of the structurally weakened substrate surface having an intermediate surface roughness,  $R_i$ , to remove the structurally weakened surface to modify the surface of at least a part of said portion to a final surface roughness,  $R_F$ ;

wherein said first and second wavelengths of laser light are different wavelengths of laser light.

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